2: Gourou--31 N-5 (1939 ?) 1945 Laos
491

Tran Ninh, apart from the Plaine des Jarres, appears as a high and difficult country: the population is sparse, and road construction has been presented with great difficulties.

3: Robequain--101-102 S-5 (no date) 1944 Laotians-1-2
116, 491, 499

"It will be by highway transport that the complete opening up of Laos, already partly realized, will be accomplished. The first job was to connect the wide reaches of the middle Mekong with the China Sea, across the Annamite ridge which is very narrow at that point. The best road, metalled throughout and open all the year around, is that between Savannakhet and Quang Tri on the mandarin road, through Ai Lai Pass (410 meters). Another which is more mountainous and less dependable, but a little shorter, goes from Vinh to Thakhek via Nape, [102] crossing the Annamite summit at an altitude of 715 meters. Throughout its Laos section it has wooden bridges which must be rebuilt after each rainy season, with a resulting large increase in taxation. It competes with the new road from Se Bang Fay, which extends the téléférique west of Mu Gia Pass.

In the mountainous country lying between the Red River and the Mekong, road work is more difficult than in northern Tonkin. A series of ridges and high plateaus running northwest to southeast presents serious obstacles to the extension of roads into the region. Moreover, the population is scarce and the mineral resources, apparently not as great as Tonkin's, remain unexploited. However, the two capitals of Laos, Vientiane and Luang Prabang, will not long lack regular communications with the deltas of Tonkin and North Annam; during the dry season it is already possible to go by automobile from Hanoi to Luang Prabang through Vinh and the Tran Ninh plateau (the Astrid road or Colonial Road No. 7).

Finally, the inadequacy of the Mekong, which seems practically irremediable, as well as Saigon's desire for the largest possible share of the Laos trade, has resulted in construction of a road branching off the Cochin China system and going up river from Kratié. This was finished as far as Paksé between 1935 and 1937, in less than three dry seasons—thanks to the systematic organization of the work which mustered a total of 6,500 coolies in this unhealthy and sparsely populated region. The trip from Saigon to Paksé can be done in about twelve hours; it used to take six days by launch. The metalled highway is to be extended along the left bank of the river as far as Vientiane.

By means of these roads the ports of Indo-China hope effectively to rival Bangkok. As a matter of fact Thailand now draws a large part of Laos' overseas traffic thanks to the railroads which early were built as far as Chiengmai to the north and across Siamese Laos as far as Khon Kaen and Ubon; these termini are linked to the Mekong by motor highways which are steadily being improved by Thailand."

10: d'Orleans--339 [2] T-3 (1891-92) 1894 Laos
116, 274, 438, 491

"Going up the stream as far as the point where the two rivers meet, we came to the movable bridge built upon piles, which leads to the village of Pan Luong and beyond that, quite at the south of the village, the manufactory of tchoum-tchoum. This liquor is obtained by putting water and rice into earthenware jars, and letting it ferment for a fortnight; at the end of that time the contents of the jars are placed, together with a little yeast, into wooden casks surmounted by a large vat full of water. By a somewhat complicated process, the liquor known as tchoum-tchoum is obtained and sold at the rate of two ticals per gallon."

25: Brodrick--90 S-3 (1939) 1948 Laotians
116, 103, 491

"All the year round, you can get by car from Vinh on the Annam coast to Xieng-Khouang, the capital of Tran-ninh province, but you certainly cannot push through from Xieng-Kouang to Luang-Prabang except during the dry season. (1)

1. As you cannot get through as soon as the rains cease since, not only has the road-surface to be reconditioned in places, but some of the bridges have to be rebuilt. This route from Ving to Luang-Prabang is the Route coloniale No. 71, often called 'Queen Astrid's Highway,' since the road was laid out, or at least much improved, against the visit of the King and Queen of the Belgians in the '20's."

23: Franck--260-261 T-2 (1924) 1926 Laotians-1-2
116, 133, 491

"At Muongsen there begins one of the greatest automobile climbs I have ever seen, up and up and forever up through the jungled ranges of the great Annamese chain, an ascension unforgettable both for its magnificence and its danger. We climbed abruptly to an elevation of fifteen hundred meters, a full mile above sea-level, without moving forward a mile on the map. The road, forever clawing itself a place in the flank of the mountain, constantly making great detours, looking always for an opening, a gap to slip through, writhed like a tortured snake, struggled fiercely upward, grew dizzy with effort, took breath again, and climbed valiantly onward. On the left, or, worse still, on the right, the abyss always yawned. Our wheels touched the edge of space and flung stones off down sheer wooded slopes into le vide--emptiness; in many places there were curves so sharp that we had just room between the jagged mountain wall and the bottomless pit to make the turn by backing and filling where the slightest miscalculation might have meant destruction. Even then we barely got by without striking a lamp on the recently blasted mountain-side or dropping a hind wheel over the edge. [261]

Between the trees of every size there were glimpses here and there for an instant of the great Annamese chain we were struggling to surmount. The narrow little boats fighting their way up the rapids of the river we had crossed again at the beginning of the climb had long since disappeared; the river itself was gone. Giant ferns, valleys full of banana-plants, perfect tenement clothes-line mazes of jungle vines, range after

blue range of the densest forest-jungle sank beneath us, and still the climbing continued, steadily, inexorably, forever. Sometimes, when the road was completely exhausted, it went a little way on the level, but only long enough to catch its breath, as quickly as do the barrel-chested Indians of the Andes, before digging its toes into the mountain-side again. The air became fresher; the humid scent of the tropics disappeared; with every wheel-turn it was more pleasure to breathe. Behind and below us lay an ocean of branches, a vegetation so compact that it filled the vast ravine of the visible world to its very edges, like an overflowing bowl of greens, an immense panorama of verdure dotted with densely black patches of shade that looked like the mouths of caves."

23: Franck--261-262 T-2 (1924) 1926 Laotians
116, 349, 491

"There were many long thatch-roofed bridges, some of them curved, some with sharp angles, bridges of timbers and rough-hewn planks evidently cut on the spot, some covered with woven bamboo splints, bridges supported only by the upright trunks of trees along the sides of them, so that even [262] the least nervous of travelers could not but have wondered whether they would always hold the weight our heavy car suddenly put upon them. Many similar bridges had been abandoned and left to disintegrate into the jungle again, because the road had been cut farther back into the hillsides."

23: Franck--346 T-2 (1924) 1926 Laotians
116, 491, 177.49 France
636.49

"Had it been in China or South America, this important trail between the two principal capitals of Laos would be impassable, in spots at least, which is the same thing so far as an overland trip is concerned, during the rainy season that was now upon us. Thanks to the few French overlords, however, mile after mile was welded together by many woven-bamboo bridges that sagged like bed-springs under our weight."

23: Franck--353[2] T-2 (1924) 1926 Laotians
116, 491

"I thought often of that résident of a Cambodian province who broke five ribs by running into a deer, as we raced on eastward by a forest-walled road as unpeopled as if it had been built for my especial use, bounding every little while over bridges held by vine and woven-bamboo cables, the bridges themselves merely a larger form of wickerwork or basketry."

26: Brodrick-- 59-60 S-3 (1939) 1944 Laotians -1-2
116, 131, 491

"Route Coloniale No.13 runs northwards from Cambodia into the Laos country--the first home of the Thai-speaking immigrants from over the mountain in Yünnan (see p.47) (3)

3. Route Coloniale No. 1 runs from the Siamese frontier to that of China.

The Laos country between the Annamese Chain and the course of the Mekong (with an extension over the right bank of the river in the north) is a land of mountains and deep valleys, of swift-flowing hill-streams. It borders on Tongking, Annam, Cambodia, Siam and Yünnan.

Although the Laos has a total area of 89,320 square miles (or more than one and a half times that of England), until a few years ago, this vast region, with a scattered population of less than one million, was almost inaccessible. [60] The Mekong was the only highway to the south, and arduous mountain-paths zigzagged through the jungle down to the littoral of Annam. In the wet season the Laos was isolated. In the last few years, however, not only has the 1000-mile long route coloniale No. 13 been completed, (1) but

1. The road runs from Cambodia and Saigon through Thakek and Paksé to Vientiane and thence to Luang-Prabang.

the Queen Astrid Highway (690 kilometres) has been cut from Vinh, on the coast of Annam, up and over the Annam Chain, and through the famous 'Plain of Jars' (2) to

2. The 'Plain of Jars' is dotted with hollowed megaliths formerly used as burial urns.

Luang-Prabang. Another road has been constructed from Vientiane to Vinh (282 kilometres) and among the subsidiary routes recently laid out is the so-called 'Benzoin Way' from Samneua to Moc-Chau (in Tongking) where it joins the road to Hanoi.

All these roads, however, are impracticable, or, at least, dangerous during the wet months (May to October) although route coloniale No. 13 is not impassable for most of the year. But communication between the Laos and the east (and that means with Hanoi, the capital of the Indo-Chinese Union) during the monsoon must be maintained by air."

69: Lewis T-5 (1950) 1951 AM1 Indochina
Laotians-AM8

which seemed to have completed their lives' span while in the act of drinking. But a climb of only a few hundred feet was enough to break right out of this hot-house profusion; to pass through the curtains of liana and to reach the first pines.

Approaching the portentous kilometre, the road became steadily worse. It was only just wide enough for the six-wheelers to pass and there were frequent tyre-bursts. Whenever a vehicle was put out of action, it was manhandled off the road and left to its own devices. There was continual trouble with the bridges, which were temporary affairs, put up at the end of the rainy season and only intended to last until the weather broke again. The most rickety-looking of the bridges had to be tested first with a jeep, followed by an unladen lorry. When this precaution was neglected, a lorry loaded with supplies crashed through and fell into the river below. This meant a painful detour through the water for the rest of the convoy. Several vehicles also got stuck and had to be hauled out. Any of these moments would have provided an ideal opportunity for an attack.

The Meo dog suffered from the heat just as badly as, according to report, its original owner would have done. Its tongue lolled from its mouth and, laying its head either on Dupont's lap or on mine, it dribbled on our bare knees. It could not stand the dust, and wetted us further with its continual sneezings.

Some of the drivers were showing signs of tiredness, and probably nervous strain. The standard of driving was going down. We were once again in the bamboo thickets, and the road was no better than a ledge round the flank of a low hill. On our right was a precipice, but the vegetation was so thick that you could get no idea of the drop. Dupont, having profited by casualties in front, had now worked his way up to a position immediately behind the last of the lorries, and we were nosing our way round the hill, keeping a look-out for occasional gaps in the road left by subsidences, when the lorry ahead suddenly turned off the road and went over the side. Gently, almost, it was lowered from sight amongst the bamboos.

149: Reinach--344a G-3 (no date) 1901 AMI Indochina
Laotians AM8

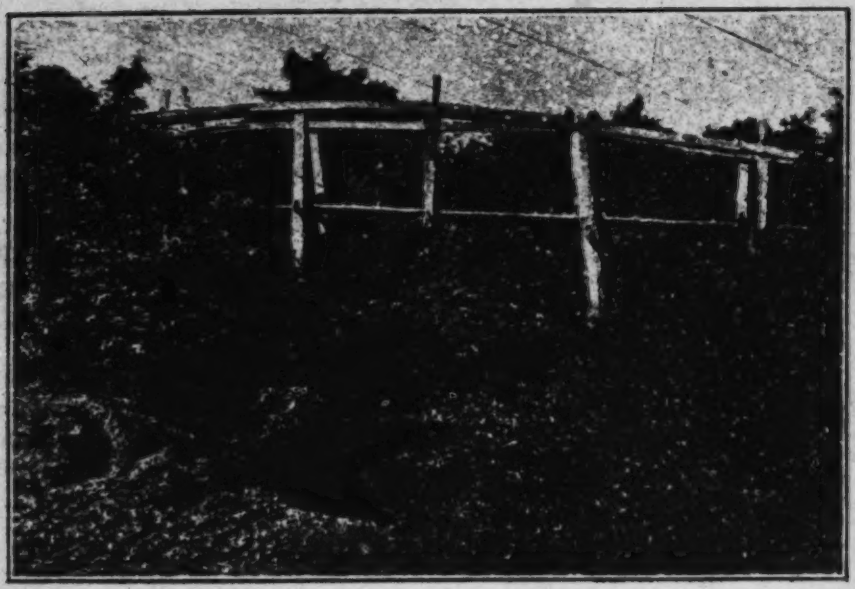

Fig. 108 /p.453/ A suspension bridge at Khong.

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In a land where the population is so sparse and where the centers are often at great distances from one another, the roads have been laid out in accordance with two principal concerns: the shortest distance and the avoidance of as much maintenance work as possible. Thus in order to fulfill these two conditions they pass through swamps on the plains and in mountainous regions over the crests, the gentlest slopes and the least steep hillsides.

In principle, these roads are supposed to be repaired every year, refilled, laid out again if necessary, rid of the trees which have fallen across them and, in a word, kept up in an easily passable state. The administration makes every effort to reach this goal, and is gradually trying to modify the routes and make the bridges which are thrown over the ravines and watercourses more solid and permanent. But time is needed to change the age-old habits of the people and to make them follow a master plan of methodically conceived and executed projects.

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In the extreme north in the territory of Muong-Hou-Neua, there are mountain mule tracks which continue on into Yunnan. They were once paved by the Chinese using paving stones taken from the surrounding rocks, and then formed very broad, low steps through the mountains. Traces can still be seen of these roads which have today fallen into disrepair, and there remain, particularly at crossings over watercourses, straight or slanting stone bridges which have fallen into ruins. At certain points there are also stone drinking troughs which sometimes bear the remains of sculptures.

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In sum, there are scarcely any roads except paths in Laos, and the latter are sufficient for communication by land. Moreover, wide roads have been experimented with in various provinces [471] over sections of varying length. On these wide roads, often even paved, which were built with high crowns and provided with gutters along the sides, it was found that the natives and their animals stubbornly continued to trace a tiny, whimsically twisting path outside of which the grass kept on growing until it covered the road once more.

Here, for each province, is a list of the main roads with some indication of the category to which they belong. We shall not deal, to be sure, with the many paths which are frequented only by travelers on foot and are designed to place one village in communication with another.

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Province of Muong-Hou. The trade routes which cross the Muong-Hou are:

1. The road from Luang-Prabang to S'semao by way of Muong-Sai, Muong-Hou-Tai, Muong-Hou-Neua, with branches at Muong-Yo to Muong-La and at Muong-Hou-Tai to Man-La;

2. The road from Luang-Prabang to Dien-Bien-Phu by way of the valley of the Nam-Hou as far as Muong-Houne. This route has been abandoned for the river route along the Nam-Hou and the Nam-Ngoua;

3. The road from Talan to Man-La merely crosses the territory of Kien-Seo in order to return to Yunnan via Muong-Le;

4. The most important road is that which connects the Sib-Song-Pahn-Na with the Black River.

Starting at I-Hou, it passes through Man-La, Muong-Hou-Neua, Pou-Fang, and Muong-Nhie and ends at Lai-Chau.

The trip from I-Hou to Lai-Chau takes twenty days. This route is followed by the caravans of Deo-Van-Tri, the Quan-Dao of Lai-Chau, which transport tea from the Pahn-Na to Tonkin (30 tons in 1897);

5. From I-Hou to Man-Hao (Red River) by way of Yunnan (thirty days).

This road has the advantage of being better built and better kept up. There are stone bridges over the watercourses, and it passes through important centers in Yunnan such as I-Pang, S'semao, Pou-Eurl and Talan.

All of these roads belong to the second category. [472]

Province of Vien-Poukha. 1. From Luang-Prabang to Vien-Poukha by way of Muong-Sai, Sop-Ngim and Muong-Luong-Nam-Tha (16 days).

2. From Vien-Poukha to Xieng-Khong by way of Muong-Mugne (117 kilometers, 5 days);

3. From Vien-Poukha to Muong-Sing (80 kilometers, 3 days);

4. From Muong-Sing to Xieng-Kok (72 kilometers, 3 days).

These roads belong to the second category.

Provinces of Luang-Prabang and Tran-Ninh. In these provinces the main roads of communication are as follows:

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1. From Luang-Prabang to Bangkok by way of Pitchai.

Luang-Prabang to Pak-Lay (Mekong).....	4 days
Pak-Lay to Pitchai (Siam) by land.....	10 "
Pitchai to Bangkok (Menam).....	11 "
Total	25 days.
Length of return voyage.....	50 "
Entire trip, going and return.....	75 days.

2. From Luang-Prabang to Vien-Tiane by way of Muong-Khassy, Som-Di and Tourakome, in 11 to 12 days.

[132] This road belongs to the second category, but only during the dry season. Certain parts are flooded in the plains or impassable in the mountains during the rainy season.

3. From Luang-Prabang to Vinh (Annam) by way of Tran-Ninh.

By land to Tha-Do, going either through Ban-Pak-Sa and Xieng-Det, or through Sop-Vi and Muong-You to reach Xieng-Khouang (Tran-Ninh); from Tha-Do to Vinh via the Song-Mo and the Song-Ca. Length of trip 20 days, and of return trip, that is to say from Vinh to Luang-Prabang, 30 days. A minimum of 50 days for the round trip (1). A second category road.

(1) This route is extremely picturesque, and the Superior Resident describes it as follows:

"For tourists I should recommend all of this route from Luang-Prabang to Xieng-Khouang by way of Muong-You, especially the part between Sop-Tia and Ban-Namat, a part of which our present maps do not give any idea. Between these two points one crosses the Pou-Hong, a very high peak. The road follows the crest almost continually and passes over the highest point. When one reaches the last peaks, the view stretches out in all directions as far as the eye can see and one can then gain some idea of Laos and particularly of the kingdom of Luang-Prabang. Everywhere, on all sides, there is nothing but a chaos of mountains pressed against one another, and the location of the valleys is indicated only by a few bands of mist, especially at the beginning of the rainy season. Above these mountains rise isolated needles of calcareous rock which have extremely bizarre shapes.

"On the plateau from Ban-Sot to Xieng-Khouang, one would really think that one was on one of the plateaus of the Juras or of

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Switzerland. Everywhere pine forests cover the summits of small, low and very gently sloping hills, covered with a carpet of verdure which rests the eyes pleasantly." (Bulletin économique de l'Indo-Chine, 1900, loc. cit.) [Translator's note. Probably refers to December 1900, "Rapport du Résident supérieur sur le Tran-Ninh."]

[473] On the territory of Tran-Ninh, a road is now being put into a suitable state of repair which will avoid Xieng-Khouang and lead directly from the frontier of Luang-Prabang to that of Annam. This road, which will be able to be made into a cart road, will shorten the trip by two days.

During the high water period the length of the trip from Muong-You to Luang-Prabang can be shortened by four days by going down the Nam-Khan.

4. From Luang-Prabang to Muong-Son (Hua-Pahn).

a. Via the Mekong and the Nam-Hou as far as Muong-Ngoi, and by land from Muong-Ngoi to Muong-Son via Sop-Sat (13 to 15 days).

b. By land, passing through Ban-Sop-Vi and Muong-Sakok (11 days).

This road has a few bad parts which necessitate its classification in the third category.

5. From Luang-Prabang to Hanoi, by way of Lai-Chau.

a. The Mekong, the Nam-Hou and the Nam-Ngoua to Dien-Bien-Phu.

b. From Dien-Bien-Phu to Lai-Chau, by land.

c. From Lai-Chau to Hanoi by way of Van-Bu and Cho-Bo (Black River).

The total trip takes 18 to 30 days, depending on the height of the waters. The land route is in fairly good condition; second category.

6. From Luang-Prabang to Muong-Hou.

Via the Mekong and the Nam-Hou to Muong-Ha, and from Muong-Ha to Muong-Hou by land: 16 to 26 days.

Second category roads.

7. From Luang-Prabang to Muong-Nan (Siam).

[474] a. By land via Pak-Lung and Muong-Hou-Sa (13 days).

b. Via the Mekong to Ban-Tha-Dua, and from Tha-Dua to Nan by land via Nape (9 days).

8. From Pak-Lay to Tahit (Outaradit, Siam) by way of the Pou-Dou (8 to 23 days, depending on the method of transportation

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used).

9. From Pak-Lay to Muong-Pit-Sanoulak (Siam) by way of Ken-Tao and Dane-Sai (10 days).

Second category roads (1).

(1) Bulletin économique de l'Indo-Chine. "Le royaume de Luang-Prabang, d'après une monographie de M. le Commissaire du Gouvernement Grand."

Province of the Hua-Pahn. From Muong-Son to Muong-Het, by land (5 to 6 days).

From Muong-Son to Xieng-Khouang, by land (14 to 15 days).

Second category roads, but which are not practicable over their whole course during the rainy season, especially from Muong-Son to Xieng-Khouang.

Province of Vien-Tiane. 1. From Vien-Tiane to Tran-Ninh.

a. By way of Muong-Poun.

b. Via the Nam-Sane (Tha-Tom).

2. From Vien-Tiane to Cammon by way of Borikane.

3. Vien-Tiane is connected to Burma by the Muong-Leui, Outaradit and Muong-Pray road, and with Siam by Nong-Khay and Korat.

The road to Burma which, from Muong-Pray, continues towards Xieng-Mai-Moulmein, is attracted towards the one from Luang-Prabang on the left bank of the Mekong, in the village of Pong-Ngeum.

These roads belong to the second category. Some parts which are not yet in good condition are to be improved in the imminent future. The road from Tha-Tom to Xieng-Khouang, in particular, was the object of a large repair project in 1900. It is now negotiable by horseback riders and beasts of burden.

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[475] Province of Cammon. 1. From Pak-Hin-Boun to Vinh (Annam).

From Pak-Hin-Boun to Keng-Kiet (by water).....	3	days
From Keng-Kiet to Cammon.....	2-1/2	"
From Cammon to Ha-Trai via Nape and the ridge of Tram-Mua.....	1-1/2	"
From Ha-Trai to Vinh (by water).....	2	"
Total.....	9	days

This road belongs to the second category, and is traveled by elephants used for transporting goods. It is possible to travel from Pak-Hin-Boun to Keng-Kiet by a rather poor path for travelers on foot.

2. From Lakhone to Vinh by way of Qui-Hop (12-1/2 days, including 10 by land).

This road joins the above at Cho-Pho. It can only be classed in the third category, and is a path for travelers on foot.

3. From Na-Huong to Mahasay (by land, 4 days).

4. From Tha-Khek to Mahasay (by land, 2-1/2 days).

5. From Pak-Hin-Boun to Vien-Tiane and Savannakhet along the Mekong (1).

(1) A road for carts some twenty kilometers long is planned between Pak-Hin-Boun and Ban-Ta-Koua to facilitate the working of tin mines.

These roads, although poor in certain parts, may be classified in the second category.

Province of Song-Khone. 1. From Savannakhet to Ban-Mouang by way of Song-Khone, Ban-Dan-Na-Lao, Kham-Thong-Niai and Pak-Sedone (10 days).

2. From Savannakhet to Quang-Tri (Annam) by way of Song-Khone, Muong-Phine and Ai-Lao (15 to 20 days).

These routes belong to the second category. During the dry season, certain parts of their course may be classified in the first category.

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Province of Ban-Mouang. 1. Road along the Mekong, connecting Ban-Mouang with Khong (4 days).

[476] 2. Road from Bassac to Attopeu. It starts at Fia-Fay on the Mekong, and follows the Attopeu telegraph line (5 days).

3. Road connecting the plateau of the Bolovens with the Sedone. It starts at [Illustration here] Ban-Da-Sia and ends at Champi. This is the road followed by oxen and elephants carrying cardamom.

All these roads are in the second category. The one along the Mekong may even be said to be in the first category during the dry season, at certain points of its route.

Province of Khong. 1. On the island of Khong, two cart roads connect the capital with the southern point and the west coast. Both belong to the first category.

2. Road along the left bank of the Mekong, from Khong to Stung-Treng (3 days). Same remark as for the other roads which follow the bank of the river.

3. Road from Khong to Siempang and Ban-Takalane (Se-Sane): 4 days.

4. Road from Ban-Kok-Padek (left bank of the Mekong, below Moulapoumok on the right bank) to Ban-Takalane, joining the above just before Siempang.

These roads belong in the second category.

[477] Province of Stung-Treng. 1. Road from Takalane to Ban-Mouang by way of Siempang and Kampo.

2. Road from Siempang to Cambodia via the ford of Pa-La-Su (Se-Sane).

3. Road from Stung-Treng to Kratie by way of Sreki.

4. Road from Stung-Treng to Ban-Done and Darlac, by way of Lompat or by way of Sreki.

The roads to Cambodia are the tracks followed by the convoys of oxen coming from the region of Nam-Nao, Song-Khone and Wapy.

Province of Attopeu. Road from Attopeu to Qui-Nhon by way of Kon-Toum and Ang-ke (1) (about 15 days on horseback or

(1) By now (1898-1899) there is a very good road for travelers on foot and horseback, which connects the Annamitic divide with the Mekong. At several points the road is built with ditches and is suitable for carts. The parts which are still somewhat difficult--

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the steep slopes of certain peaks, the brinks of torrents, etc.--are being subjected to new routings or improvement projects which will soon be carried out. (Bulletin économique de l'Indo-Chine, loc. cit.) [Translator's note. This seems to be a reference to the December 1899 number, "Notes du Commandant supérieur du Bas Laos sur la région est du Bas Laos."]

elephant back).

Province of Saravane. 1. Road from Ban-Mouang to Saravane by way of Kham-Thong-Niai, along the Sedone (4 to 5 days). This road is a first category road over a distance of five kilometers from Keng-Kok to Keng-Pho. The falls of the Sedone can thus be avoided by a cart road at all seasons of the year. Over the rest of its route the road belongs to the second category.

2. Road from Saravane to Attopeu by way of Thateng, the plateau of the Bolovens, Nong-Bok and the Se-Pien (4 to 5 days. Second category).

3. Road from Saravane to Ai-Lao by way of Muong-Nong (a poor path).

Province of Darlac. 1. Road from Ban-Me-Thuot or Darlac to Ninh-Hoa (Annam). A six or seven day trip. This is a cart track on the Laotian side of the divide, that is to say as far as Ai-Bloum. At Me-Sao a branch forks toward Cong-Son (Annam). This is a portion of the route selected for the Saigon-Qui-Nhon railway.

[478] 2. Cart road from Ban-Done to Kratie, either by way of the Pou-Kha (10 to 12 days), or by going around the mountain to the north and connecting with the road from Stung-Treng to Kratie at Sreki.

2. PROJECTED LAND ROUTES OF COMMUNICATION

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Three large highways are projected, namely:

1. From Savannakhet to Ai-Lao and Hué; [Illustration here]
2. From Pak-Hin-Boun to Vinh by way of Ha-Trai;
3. From Luang-Prabang to Vien-Tiane.

These roads will be negotiable by carts and will be provided with iron and wooden bridges. Engineering officers have been placed at the disposition of the Superior Resident of Laos to make a study of these various routes.

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A credit of 32,500 francs has been established for the construction of [479] these roads in the 1900 budget, and another of 10,000 francs has been set aside for improving the existing roads.

These credits are allocated for meeting the costs of equipment, iron, skilled labor, etc. Current repairs are made through statute labor and payments in kind which all registered persons owe.

Supervision of these projects falls to the inspectors and chief guards of the native civil guard.

With support such as this, it becomes clear that it will be possible to carry out quite large road projects with credits which might seem quite insufficient at first glance. It is true that they will be renewed as the need arises.

3. PRESENT RAILWAY ROUTES

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"There is only one railway in Laos. It crosses the island of Khone and is used for transhipment of passengers and goods from the lower reach to the Khone-Pakmoun reach and vice versa. It is a narrow railway, with a gauge of one meter. It is 4.5 kilometers long. It was built by the administration and placed at the service of the River Merchant Fleet [Messageries Fluviales]."

4. PROJECTED RAILWAY ROUTES

496
185
653

"A railway is planned which will connect the great middle reach of the Mekong with a seaport in Annam, passing through Ai-Lao, Quang-Tri and Hué. This would make it possible for all the products of central Laos to flow down towards Annam, and avoid for transports in general the disadvantages and dangers of the Kemmarat rapids. Studies for this line were begun in the first days of 1899, and have continued during the dry season of 1899-1900" (1).

(1) Le Laos français, op. cit. [Lieutenant-colonel Tournier (Superior Resident in Laos), "Notice sur le Laos français," in Revue Indochinoise, Hanoi, 1900.]

The portion of this line in Annamite territory, that is to say the Quang-Tri-Hué-Tourane section, is included in the schedule of expenditures to be covered by a loan of 200 millions, to the extent of 24 millions. Since it is 195 kilometers long, the cost comes to 125,000 francs per kilometer.